

US LHC Accelerator Project		Baseline Change Request
BCR Number	31	
WBS	1.1.1 IR Quadrupoles	
Title	Test Stand Commissioning	
Change Control Level	3	
Originator	J. Kerby	
Date	2 August 2001	

Description of change

This bcr covers the clean up fixes required to complete the MTF Test Stand and associated systems, based on experience of the first test of the prototype magnet. The fixes are broken into 3 areas, related to the test stand cryogenic performance; the cold measurement system, and the warm measurement system.

The test stand modifications involve modifications to remove an estimated 8-10 W of heat load. This includes making a better seal of the lamda plate and tying the 80k interconnect shield more closely to the 80k line. In addition, the magnet test will be followed by a "zero magnet test", which should confirm that the additional load is either in the feed can or in the magnet cryostat itself. This comprises the bulk of the modification work. There are additional small changes to be made, including modification of the control of several valves which will assist in system control, and a check of the current leads which appear to set the hi pot limit for the test stand system.

With respect to the cold measurement system, we will add the extra drive shaft needed to use a short probe with the cold measurement system and the extra drive shaft to measure the second cold mass in a production Q2. An automatic control box will be added to both warm and cold systems to cut power to the axial translation motor when motion is stopped to reduce noise.

The warm measurement system will be completed and brought on line, work which was abandoned in order to get the cold measurement system ready for the prototype test.

Out of separate funds Fermilab is augmenting the superfluid cooling capacity of the test facility, primarily through the addition of another Kinney pump to the cryogenic plant. This will cut the cooldown and recovery time significantly.

Reason for change

The stand and associated systems didn't work perfectly the first time around.

Impact on other sub-systems

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None.

Impact on cost

The total cost change for the BCR is +127k\$, including G&A and escalation. Table 1 is the June 2001 EAC for this effort. Since there is no current baseline allocated for this, those numbers would all be zero, and the deltas for this effort the same as those presented in the EAC table.

Table 1. June 2001 EAC for Completion of Test Stand Commissioning

WBS #	DESCRIPTION	JUN 2001 EAC				
		Direct FY01\$	Direct TY\$	CSS/MSA	G&A	Total
	BCR 31 TOTAL	\$97	\$97	\$19	\$10	\$127
	<u>Materials and Assembly</u>					
1.1.1.4.1.6	Test Stand Commissioning	\$67	\$67	\$13	\$7	\$87
1.1.1.4.1.6.1	Test Stand Mods	\$17	\$17	\$3	\$2	\$22
1.1.1.4.1.6.2	Warm System Drive	\$10	\$10	\$2	\$1	\$13
1.1.1.4.1.6.3	Cold System Drive	\$40	\$40	\$8	\$4	\$52
	<u>EDIA</u>					
1.1.1.7.4.1.6	Test Stand Commissioning	\$30	\$30	\$6	\$3	\$40
1.1.1.7.4.1.6.1	Test Stand Mods	\$8	\$8	\$2	\$1	\$11
1.1.1.7.4.1.6.2	Warm System Drive	\$22	\$22	\$4	\$2	\$29
1.1.1.7.4.1.6.3	Cold System Drive	\$0	\$0	\$0	\$0	\$0

Impact on schedule

This BCR was processed simultaneously with BCR30. A common MS Project file was used for both, and is located at

US-LHC(Admin)\Baselines\Current Baseline\Fnal\

as file

FNAL Baseline as of BCR31.mpp

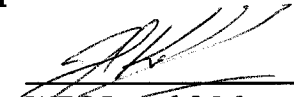
On the TD server.

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Other impacts (ES&H, etc.)

Change Control Board recommendation (if required)

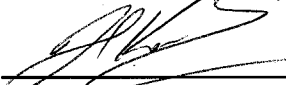
Approvals



 WBS Level 3 Manager

15-oct-01


 Date



 Laboratory Project Manager

15-oct-01

 Date



 Change Control Board Chair

15 Oct 01


 Date



 US LHC Accelerator Project Manager

15 Oct 01

 Date



 DOE LHC Project Manager

16 Oct 01

 Date

 Director, DOE Division of High Energy Physics

 Date